

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA

Patrick et al.,

Plaintiffs,

v.

Civil Action No. 08-1025

FirstEnergy Generation Corp.,

Defendant.

Price et al.,

Plaintiffs,

v.

Civil Action No. 08-1030

FirstEnergy Generation Corp.,

Defendant.

MEMORANDUM OPINION

CONTI, Chief District Judge

I. Introduction

Before the court are expert challenges filed by defendant FirstEnergy Generation Corporation (“FirstEnergy” or “defendant”) in two cases consolidated for discovery, *Patrick v. FirstEnergy Generation Corp.* (No. 08-1025) and *Price v. FirstEnergy Generation Corp.* (No. 08-1030).¹ These cases involve FirstEnergy’s Bruce Mansfield Power Plant (“Bruce Mansfield”), which is located along the Ohio River in Shippingport, Pennsylvania. The plaintiffs in each case allege harm from air pollution discharged by Bruce Mansfield. The alleged pollution came in the form of “white rain,” a chronically discharged corrosive material, and “black rain,” a dark-colored sooty residue discharged on two occasions in 2006 and 2007. The white rain and black rain were deposited on the area surrounding Bruce Mansfield, allegedly causing

1 A third case consolidated for discovery purposes, *Hartle v. FirstEnergy Generation Corp.* (No. 08-1019), is not at issue in the present opinion.

property damage and adverse health effects. The named plaintiffs in *Patrick* are four couples who make class-action claims for damages due to diminution of property value and seek to enjoin the plant from operating until it can prevent the white rain emissions. In *Price*, nineteen plaintiffs seek monetary damages for adverse health effects and property damage and seek injunctive relief.

The parties conducted extensive fact and expert discovery in these cases. Defendant filed motions to limit or preclude the testimony of twelve of plaintiffs' experts. Plaintiffs filed motions to limit or preclude the testimony of seven of defendant's experts. This memorandum opinion addresses two of the plaintiffs' challenged geology and sampling experts—Wayne C. Isphording, PhD (“Isphording”) and James R. Millette, PhD (“Millette”).² The motions to exclude these experts are fully briefed, and the court heard testimony and argument on January 13 and January 14, 2014. Because, as explained below, the court finds that the expert testimony of Isphording and Millette would not be helpful to the trier of fact, the court will grant the motions to exclude their testimony.

II. Standard of Review

Federal Rule of Evidence 702 governs the admissibility of expert testimony and states:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;

² The testimony of Isphording and Millette are at issue in the *Patrick* and *Price* cases only. The motions to exclude Isphording are ECF No. 192 (*Patrick*) and ECF No. 121 (*Price*). The motions to exclude Millette are ECF No. 160 (*Patrick*) and ECF No. 114 (*Price*). Unless otherwise noted, ECF numbers appearing in the text of this opinion refer to the *Patrick* case, No. 08-1025.

- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

FED. R. EVID. 702. Under the seminal case of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), district courts must act as gatekeepers to “ensure that any and all scientific testimony or evidence admitted is ... reliable.”³ *Id.* at 589. The United States Court of Appeals for the Third Circuit explained that Rule 702 “embodies a trilogy of restrictions” that expert testimony must meet for admissibility: qualification, reliability and fit. *Schneider ex rel. Estate of Schneider v. Fried*, 320 F.3d 396, 404 (3d Cir. 2003). The party offering the expert testimony has the burden of establishing each of these requirements by a preponderance of the evidence. *In re TMI Litig.*, 193 F.3d 613, 663 (3d Cir. 1999).

A. Qualification

An expert witness’s qualification stems from his or her “knowledge, skill, experience, training, or education.” FED. R. EVID. 702. The witness therefore must have “specialized expertise.” *Schneider*, 320 F.3d at 405. The court of appeals interprets the qualification requirement “‘liberally,’ holding that ‘a broad range of knowledge, skills, and training qualify an expert as such.’” *Calhoun v. Yamaha Motor Corp., U.S.A.*, 350 F.3d 316, 321 (3d Cir. 2003) (quoting *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 741 (3d Cir. 1994)). When evaluating an expert’s qualifications, district courts should not insist on a certain kind of degree or background. *Robinson v. Hartzell Propeller Inc.*, 326 F. Supp. 2d 631, 667 (E.D. Pa. 2004). An expert’s qualifications are determined with respect to each matter addressed in the proposed

³ While *Daubert* applied exclusively to scientific testimony, see *Daubert*, 509 U.S. at 590 n.8, the Supreme Court subsequently extended the district court’s gatekeeper function to all expert testimony. *Kuhmo Tire Co. v. Carmichael*, 526 U.S. 137, 147 (1999).

testimony. *Calhoun*, 350 F.3d at 322 (“An expert may be generally qualified but may lack qualifications to testify outside his area of expertise.”). “While the background, education, and training may provide an expert with general knowledge to testify about general matters, more specific knowledge is required to support more specific opinions.” *Id.*

B. Reliability

In *Daubert*, the Supreme Court stated that the district court’s gatekeeper role requires “a preliminary assessment of whether the reasoning or methodology underlying the testimony is ... valid and of whether the reasoning or methodology properly can be applied to the facts in issue.” *Daubert*, 509 U.S. at 592–93. While the Court noted in *Daubert* that district courts were permitted to undertake a flexible inquiry into the admissibility of expert testimony under Rule 702, the court of appeals has enumerated the following eight factors that a district court may examine:

1. whether a method consists of a testable hypothesis;
2. whether the method has been subjected to peer review;
3. the known or potential rate of error;
4. the existence and maintenance of standards controlling the technique’s operation;
5. whether the method is generally accepted;
6. the relationship of the technique to methods which have been established to be reliable;
7. the qualifications of the expert witness testifying based on the methodology; and
8. the non-judicial uses to which the method has been put.

In re Paoli R.R. Yard PCB Litigation (Paoli II), 35 F.3d 717, 742 n.8 (3d Cir. 1994). This list of factors is a “convenient starting point,” but is “neither exhaustive nor applicable in every case.” *Kannankeril v. Terminix Int’l, Inc.*, 128 F.3d 802, 806–07 (3d Cir. 1997).

Under these factors, experts are not permitted to engage in a “haphazard, intuitive inquiry,” but must explain the research and methodology they employed in

sufficient detail in order to allow the other party's expert to test that hypothesis. *Oddi v. Ford Motor Co.*, 234 F.3d 136, 156 (3d Cir. 2000). Where an expert fails to use standards to control his or her analysis, "no 'gatekeeper' can assess the relationship of [the expert's] method to other methods known to be reliable and the non-judicial uses to which it has been put." *Id.* at 158.

"The evidentiary requirement of reliability is lower than the merits standard of correctness." *Paoli II*, 35 F.3d at 744. "As long as an expert's scientific testimony rests upon 'good grounds, based on what is known,' it should be tested by the adversary process—competing expert testimony and active cross-examination—rather than excluded from jurors' scrutiny for fear that they will not grasp its complexities or satisfactorily weigh its inadequacies." *United States v. Mitchell*, 365 F.3d 215, 244 (3d Cir. 2004) (quoting *Ruiz-Troche v. Pepsi Cola of P.R. Bottling Co.*, 161 F.3d 77, 85 (1st Cir. 1998)).

C. *Fit*

The Rule 702 requirement that testimony "will help the trier of fact to understand the evidence or to determine a fact in issue" is called the "fit" requirement. Fit requires that there be a "connection between the scientific research or test result to be presented and particular disputed factual issues in the case." *Paoli II*, 35 F.3d at 743. "Fit is not always obvious, and scientific validity for one purpose is not necessarily scientific validity for other, unrelated purposes." *Id.* (quoting *Daubert*, 509 U.S. at 591). The standard for fit is "not that high," although it is "higher than bare relevance." *Id.* at 745.

III. Discussion

A. *Defendant's Motions to Preclude the Testimony of Isphording*

Isphording is an emeritus professor of geology and a licensed professional geologist. Isphording produced an expert report ("Isphording Rep."), dated August 3, 2012, and a rebuttal report, dated November 30, 2012. He concluded in his expert

report that particulate emissions from Bruce Mansfield have been deposited on plaintiffs' properties. FirstEnergy challenges the reliability of Isphording's methodology and analysis and the "fit" of his conclusion. FirstEnergy also challenges Isphording's qualification to the extent his report contains opinions about the health effects of emissions, air dispersion, or pollution controls.

1. Isphording's Methodology and Conclusions

In April and May, 2012, Isphording visited twenty-six locations (designated S-1 through S-26) for the purpose of taking material samples. Most of the locations were south, southeast, and northeast of Bruce Mansfield and within five miles of the plant. Three locations (S-3, S-4, and S-5) were north and more than ten miles away. At each location, Isphording obtained a soil sample and wet and dry wipe samples from a hard surface, such as patio furniture or the hood of an automobile. Each sample was analyzed to determine its chemical composition and structure.

Isphording determined that material collected from plaintiffs' properties was fly ash that originated from a coal-fired power plant.⁴ (Isphording Rep. 15, ECF No. 194-4.) This conclusion was supported by the structure of the material, which indicated that it was formed under high temperature, and by the presence of gypsum, which is used as part of a coal-fired power plant's pollution control systems. (*Id.*) Isphording concluded that the "chemical signature" of the samples taken on plaintiffs' properties indicated that the material was from Bruce Mansfield rather than from the Beaver Valley Power Plant, a coal-fired power plant located approximately four miles to the northeast of Bruce Mansfield. (*Id.* at 15–16.)

4 "Fly ash" is a noncombustible powdery residue generated by burning coal. It is carried out of the furnace by the gas stream and collected by pollution control equipment or ejected out the stack. See 40 C.F.R. § 423.11(e).

2. “Fit” of Isphording’s Opinions

Defendant challenges several aspects of Isphording’s methodology, the “fit” of his opinion, and his qualification with respect to statements about health effects, air pollution control systems, and air dispersion modeling. The court does not reach the challenges to Isphording’s methodology and qualification because, assuming that Isphording’s conclusions are reliable and accurate, they would not help the finder of fact to determine a fact in issue in these cases.

The claims in these cases are limited to pollution from Bruce Mansfield which resulted from two distinct and short-lived black rain episodes and from the allegedly ongoing and chronic white rain. The white rain is alleged to have been an issue since the 1970s. (Hr’g Tr. 243:4–245:9, Oct. 16, 2013, ECF No. 260.) Defendant, while disputing the extent and frequency of the white rain, admits that it has occurred.⁵ The parties have not briefed the statute of limitations applicable to the claims in this case, and the court does not decide that issue now, but pollution occurring in the 1970s generally cannot be the subject of a claim in these cases.

Isphording cannot determine when the particles from Bruce Mansfield were deposited on plaintiffs’ properties. (Hr’g Tr. 34:9–12, Jan. 13, 2014, ECF No. 275.) Isphording testified that fly ash particles may persist for decades in the environment, depending on the composition of the soil. (*Id.* at 45:15–18.) The Bruce Mansfield fly ash particles identified by Isphording could be from white rain that occurred well before the actionable period in these cases. Additionally, Isphording is unable to determine whether the fly ash particles were deposited in a white or black rain episode or by another mechanism not at issue in these cases. (Hr’g Tr. 114:22–116:19, Jan. 14, 2014, ECF No. 276.)

⁵ As articulated by counsel, defendant’s position is “that over various periods of time ... going back to 1974 there has been white rain episodic, intermittent, that falls on plant property and falls right outside of plant property in Shippingport.” (Hr’g Tr. 169:2–6, Jan. 13, 2014, ECF No. 275.)

Plaintiffs argue that Isphording need not testify about “when” or “how” the particles arrive on plaintiffs’ properties because other experts, particularly the air dispersion modeler, address those issues. (ECF No. 236, at 15.) They argue that Isphording’s opinions will assist the trier of fact in determining “whether” Bruce Mansfield emitted particles that deposited on plaintiffs’ properties. (*Id.*)

In *Daubert*, the Supreme Court explained that the fit prong of Rule 702 “goes primarily to relevance.” *Daubert*, 509 U.S. at 591. On remand from the Supreme Court, the Court of Appeals for the Ninth Circuit explained that the Supreme Court “obviously did not intend the second prong of Rule 702 to be merely a reiteration of the general relevancy requirement of Rule 402.” *Daubert v. Merrell Dow Pharm., Inc.*, 43 F.3d 1311, 1321 n.17 (9th Cir. 1995) (“*Daubert II*”). Because expert testimony can mislead a jury, “[f]ederal judges must ... exclude proffered scientific evidence under Rules 702 and 403 unless they are convinced that it speaks clearly and directly to an issue in dispute in the case, and that it will not mislead the jury.” *Id.* The Court of Appeals for the Third Circuit, while not adopting the “apparent presumption of exclusion,” agreed with the “spirit” of the Ninth Circuit’s analysis and instructed district courts to “tread carefully” when evaluating this prong of *Daubert*. *United States v. Ford*, 481 F.3d 215, 221 n.6 (3d Cir. 2007).

Whether fly ash particles from Bruce Mansfield invaded plaintiffs’ properties is not an issue in dispute in these cases. The issue in dispute is whether particles from Bruce Mansfield were deposited in a white or black rain event during the relevant period. On remand in *Daubert*, the Ninth Circuit excluded as unhelpful experts who testified that Bendectin is capable of causing birth defects in humans: “what plaintiffs must prove is not that Bendectin causes some birth defects, but that it caused *their* birth defects.” *Daubert II*, 43 F.3d at 1322. Isphording’s testimony presents a similar problem. His conclusions support the contention that some pollution from Bruce Mansfield reached plaintiffs’ properties, but they offer no support for the contention

that white rain or black rain landed on plaintiffs' properties during the applicable period. That other expert or lay witnesses will testify that white rain reached plaintiffs' properties does not cure this defect in the testimony. Because Isphording cannot testify when or how the particles he identified came to be on plaintiffs' properties, his testimony would not help the trier of fact determine causation, and the court will grant the motions to exclude his testimony.⁶

B. Defendant's Motions to Preclude the Testimony of Millette

Millette is an environmental scientist and microscopist. He prepared an expert report ("Millette Rep.") dated August 6, 2012, and a rebuttal report dated December 3, 2012. Millette opined that material found on plaintiffs' properties matched material collected from Bruce Mansfield. Defendant challenges the reliability of Millette's methodology and the "fit" of his opinions. Because Millette, like Isphording, cannot identify when or how particles from Bruce Mansfield reached plaintiffs' properties, the court will exclude his testimony.

Millette received soil and surface samples collected by RT Environmental Services, another of plaintiffs' experts. These samples were taken from plaintiffs' properties and from control areas far from Bruce Mansfield. Millette also received samples collected inside Bruce Mansfield's flues. Millette examined these samples with optical and electron microscopes and performed spectroscopic analysis to identify the composition of the samples. Millette identified fly ash particles and gypsum in the samples from plaintiffs' properties. Millette opined that coal ash and gypsum particles found in samples collected from plaintiffs' properties "were a

6 The motions will be granted without prejudice to plaintiffs to seek to present Isphording should defendant introduce evidence or argue that no fly ash particles from Bruce Mansfield reached plaintiffs' properties. In such an event, the court would need to consider defendant's remaining objections to Isphording's testimony under the methodology and qualification prongs.

positive match” for the coal ash and gypsum found in samples taken from Bruce Mansfield. (Millette Rep. ¶ 16, ECF No. 164-4.)

Millette admitted that he cannot determine how or when the fly ash particles he identified were deposited on plaintiffs’ properties. (Millette Dep. 26:5–27:9, Feb. 25, 2013, ECF No. 164-7.) The court will exclude Millette’s testimony for the same reasons the court excluded the testimony of Isphording. Assuming that Millette’s methodology is reliable and his conclusions are accurate, his opinions would not be helpful to the trier of fact. Whether particles from Bruce Mansfield invaded plaintiffs’ property is not a fact in issue in this case.⁷

IV. Conclusion

For the reasons set forth above, the court will grant defendant’s motions to exclude Isphording (*Patrick* ECF No. 192; *Price* ECF No. 121) and Millette (*Patrick* ECF No. 160; *Price* ECF No. 114). An appropriate order will follow.

Dated: March 13, 2014

/s/ Joy Flowers Conti
Joy Flowers Conti
Chief United States District Judge

⁷ As with the motions to exclude Isphording, the motions to exclude Millette will be granted without prejudice to plaintiffs to seek to present Millette should defendant introduce evidence or argue that no fly ash particles from Bruce Mansfield reached plaintiffs’ properties.